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REVISED REMOVAL SITE EVALUATION OF THE CLOSURE OF PETROLEUM UNDERGROUND STORAGE TANKS JUNE 1991

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REVISED REMOVAL SITE EVALUATION

for the

CLOSURE OF PETROLEUM UNDERGROUND STORAGE TANKS

June 1991

Feed Materials Production Center

Fernald, Ohio

Introduction

In accordance with the Ohio Administrative Code (OAC), abandoned underground storage tanks must be permanently closed within a specified time frame. In order to comply with these requirements, the FMPC is actively engaged in the closure of eleven underground storage tanks. Current plans call for ten of these tanks to be closed by removal and one tank to be closed by abandonment-in-place.

This revised Removal Site Evaluation is presented to assist the lead agency in determining the necessity for a removal action to address the potential threat of a release affected by the closure of these tanks. A new determination became necessary for the following reasons:

1. One of the control measures stated in the original RSE was proven infeasible.

2. As a result of releases of petroleum which were confirmed at all tank sites after the issuance of the original RSE, the scope of the project has increased to include the removal of the petroleum contaminated soils.

3. It was not clear whether backfilling of the excavations was covered under the original RSE. This revised RSE includes backfilling.

This information is intended to assist in the evaluation of the threat of a release of CERCLA regulated hazardous substances which are present as a result tank closure activities. This document does not address the threat of a release of petroleum products, as petroleum releases are not subject to CERCLA response authority and liability.[1]

Source Term

The potential threat of a release will be present through the duration of the tank closures. The soils which surround the tanks are assumed to be radiologically contaminated. The potential exists for the migration of airborne or waterborne contaminants from the excavation zone and associated stockpiles to the surrounding environment. Weather conditions and or physical movement of the soils and groundwater on or by personnel and equipment are the potential causes of this migration.

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[1] Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Section 101(14) and Section 104 (a)(2), and 40 CFR 300.6.

Evaluation of the Magnitude of the Potential Threat

The magnitude of the potential threat of migration of contaminated soils may be significant under uncontrolled tank removal conditions. Surface runoff could potentially carry significant amounts of contaminants from soil stockpiles or open excavations into surface runoff structures or into the area groundwater. Wind conditions could create airborne particulate which has a widespread potential for migration. In an attempt to significantly reduce this potential threat, the original RSE indicated the following measures would be taken during the course of tank closure to control the soil and prevent releases as follows:

1. "Twenty-four hour per day dewatering of the open excavation will be performed through the use of a sump pump and portable collection tanks. The water level in the tanks will be continuously monitored to prevent overfilling. The water collected will be characterized and disposed of in accordance with all applicable regulations.

2. Temporary dikes will be installed as necessary to minimize the amount of surface runoff entering the excavation area. This will be done to minimize the possibility of waterborne uranium from entering the excavation and contaminating the subsurface soils and groundwater. This is also necessary to minimize the amount of water requiring characterization and disposal.

3. Excavated soil will be placed on and covered with plastic sheeting or stored in a container to prevent any erosion or other suspension of uranium contaminated soils. Plastic covers or containers will help to retain soil moisture, which will preclude dusting or any other airborne migration. In the event that soils have dried to the point where dusting is possible, manual rewetting of the soils will be performed. Final soil disposition shall be in accordance with Site Policy and Procedure FMPC-720 "Control of Construction Waste." All soil sampling results will be incorporated into the RI/FS data Base.

4. Rigid housekeeping rules will be set up to maintain a neat and orderly excavation site. Administrative controls will be placed on personnel and equipment to prevent the release of uranium contaminated soils from the excavation site."

During the course of the tank removal operations, groundwater was encountered in some of the excavations in much larger quantities than anticipated at the time of the original RSE. In two of the excavations, groundwater infiltration was continuous. It soon became apparent that it was not possible to maintain dry excavations. As a result of this, and after some attempts, all pumping of the water was halted.

Although the maintenance of dry excavations was proven infeasible, the other stated controls have been implemented and will continue to reduce the potential threat of a release. Sandbags and other diking materials are in place around excavations in an attempt to divert runoff from the excavations. The excavated soils are being placed on and under plastic sheeting to prevent the spread of

Evaluation of the Magnitude of the Potential Threat (Continued)

contaminated soils. Housekeeping rules have been set up to maintain a neat and orderly excavation site.

The removal of petroleum contaminated soils does not require any consideration over and above that required for removal of the other contaminated soils as petroleum releases are exempt from CERCLA response.

Assessment of the Need for a Removal Action

Consistent with Section 40 CFR 300.65 of the National Contingency Plan, the Department of Energy (DOE) shall determine the appropriateness of a removal action. Eight factors to be considered in this determination are listed in 40 CFR 300.65 (b) (2). The following apply specifically to these underground storage tanks:

40 CFR 300.65 (b) (2) (ii)

Actual or potential contamination of drinking water supplies or sensitive ecosystems.

40 CFR 300.65 (b) (2) (v)

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Appropriateness of a Response

If it is determined that a response is appropriate due to the potential for contaminant migration, a removal action may be required to address the situation. If a planning period of less than six months exists prior to initiation of a response action, DOE will issue an Action Memorandum. This Action Memorandum will describe the selected response and provide supporting documentation for the decision.

If it is determined that there is a planning period greater than six months before a response is initiated, DOE will issue an Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum. This memorandum is to be used to document the threat to public health and the environment. It will also serve as a decision document to be included in the Administrative Record.

Based on the evaluation of all of the above factors, it has been determined that existing controls for the planned action are adequate and a removal action is not required.